



VIEW IN PALL MALL OF THE REFORM, TRAVELLERS', ATHENÆUM, AND UNITED SERVICE CLUB HOUSES, THE PORTICO OF THE COLLEGE OF PHYSICIANS, THE NATIONAL GALLERY, AND SPIRE OF ST. MARTIN'S CHURCH.

We have here before us a *tableau* of several important metropolitan edifices, works of our renowned contemporary architects, Barry, Burton, Nash, Smirke, and Wilkins, with Gibbs of the last age bringing up the rear; this aggregation of structures falls singularly and somewhat happily together, and as they are here grouped, the subject of one view, so we propose to treat them at present, and to apply ourselves to details of

illustration and description in subsequent numbers and timely periods of *THE BUILDER'S* progress.

In doing this, it will be our duty to draw a constant middle line between the unmeasured strictures and condemnations of one class of critics, and the extravagant eulogies of another. A vitiated or an artificial public taste has passed judgment first upon one and then upon the other of these structures, and the verdict passes current for a decision; it will be for us to distrust or confirm it, by producing new evidence—as far as in us lies. We must have “the truth, the whole truth, and nothing but the truth,” and until this is produced, all judgments, whether in praise or censure, are valueless.

Who can judge of the merit or demerit of

another's working, without a full knowledge of the circumstances by which the worker was surrounded? He must know how much was imposed upon him, and how much was self-imposed; and not judge past works by present tests or standards, nor forget how much present work, in its merit, may owe to the past, even in its apparent blunderings. By this rule, there are many who now appear great, will be little when placed beside a less-favoured predecessor, and many a previous man of prowess become a pigmy in a state of things and circumstances less favourable than those he lived to enjoy.

It is in this spirit, and applying tests of this character, that we shall attempt to draw the middle, and, consequently, something approaching to the true line.

#### OPENING OF THE NEW GRAVING DOCK AT WOOLWICH.

THE opening of this stupendous work took place on Tuesday, when this dock was entered for the first time by her Majesty's frigate *Chichester*, for the purpose of being coppered, &c. Viewed only as a work of mere masonry and architecture, the dock would in itself be a most striking object; but when the difficulties required to be surmounted in its construction are considered, it must be acknowledged that the new basin is an object worthy of remark, and a specimen of the perfection to which this particular description of civil engineering is carried in this country.

The basin in question is of solid granite, with steps, or what are technically termed alters, on each side, fifteen inches to one foot deep, affording facilities for descending to the bottom, and also for props or supports being affixed, thus enabling any vessel, whatever may be her size, to be supported on her keel without injury. The length is 300 feet at the top of the water, 245 feet at the bottom; the width of the basin is 80 feet at the top, gradually diminishing as the basin deepens. As it approaches the bottom it presents the appearance of a perfect concave some 26 feet deep. To this basin there are two folding gates, or locks, extending the whole width of the dock, made of iron and timber doubled, and weighing about 60 tons each; and the perfection with which these gates work and are adjusted to each other may be seen in the fact, that though each of them is of the enormous

weight of 60 tons, two men, or rather a boy and a man, can move them easily. These gates open to the general basin communicating with the Thames. The dock itself is filled by the river tide, or by a steam-engine, working with two 20-horse boilers, which can either fill the dock or withdraw the water in about six hours' time. When the engine is required to empty the dock, the water withdrawn from it can either be discharged into the common sewer, or into the basin, which communicates with the Thames. The engine is situated some hundred yards from the basin, is by Boulton and Watts, and is a beautiful piece of mechanism. The time it takes to empty the dock varies according to the size of the vessel received in it, a large vessel displacing more water than a smaller one. In the case of the *Chichester*, which appeared to us to be of the size of a 46-gun ship, the time taken was about six hours. There is also upon the top of the engine-house a tank holding some 200 tons of water, available in cases of accident, and in the yard there are also other wells accessible by pumps supplying fresh water for the use of the dockyard, the latter wells being perfectly unconnected with the dock itself.

The time occupied in these works has extended over something more than seven years, and the difficulties which the engineer has had to meet and surmount may be judged from the fact that the basin itself is cut through a stratum of peat and another of quicksand, through which percolated a spring which afforded some 800 gallons of water per minute. The whole

of these strata were dug through to the depth in some places of 125 feet, and the sub-springing waters were conducted through various channels towards the river. The alters or steps on each side of the dock, which are 24 in number, extend from the top to the bottom of the basin, which, viewed from its upper end, presents the appearance of an inverted parabola, and the whole of which is formed of heavy granite masonry; every stone being joggled to its neighbour by pieces of Bangor slate, so that no part of the work can sink in, or get out of place; or, if it should, then, that all parts of it should sink equally without disturbing their respective bearings and proportions to each other.

The masonry, which is 18 inches in depth, is laid upon concrete seven feet thick. The dock itself is executed from the plans of Mr. Walker, of Parliament-street, by Messrs. Grissell and Peto, and is calculated to have cost already some 80,000*l.*, exclusive of the steam-engine.

Taken as a whole, the basin is really a wonderful work, whether we consider it merely as a plain engineering operation, or whether we look at the difficulties which have been encountered successfully. In either case we conceive that great praise is due to Mr. Walker, the engineer, not merely for the general plan of the undertaking, but for the minor details in carrying it out. Taking it for all in all, the work is worthy of the country, it is creditable to those engaged in it, and is calculated to be eminently useful for the public service.—*Times*.